

2002 REPORT TO CONSUMERS ON WATER QUALITY

CITY OF MORGAN HILL • CONSUMER CONFIDENCE REPORT

Our Goal:

Meet or Exceed Federal and State Regulations

THE CITY of Morgan Hill is committed to providing the community a safe, reliable supply of excellent quality drinking water that meets or exceeds Federal and State regulations.

This report gives information about the quality of water provided in 2002. It describes where your water comes from, what it contains and how it compares to State standards.

This report contains some limited information regarding testing for perchlorate levels in the city's water wells in 2003. More detailed information on perchlorate testing will be reported via press releases, on Morgan Hill's cable television bulletin board (Channel 17), and in regular updates to the several public agency websites (see box at right).

Although much of the information on technical matters is required by State law, we have also provided additional information that you should find useful. ♫

Water System Security

WHILE MORGAN HILL does not have open-air water facilities - and is therefore less vulnerable to certain threats - we have, nonetheless, taken steps to ensure additional security measures. These include enhanced security patrols and secondary remote alarm systems.

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien. This report contains important information about your community's water quality. If necessary, please have it translated, or speak with a friend who understands it well. ♫

City Perchlorate Testing Beyond State Requirements

POTENTIAL PERCHLORATE contamination of drinking water in some supply sources in the South Valley - including some water supply sources operated by the City of Morgan Hill - is a priority concern that your City government is aggressively addressing.

The City is testing its wells at a frequency beyond that required by the State. In addition, the City is prepared, though it is not required to do so, to shut off wells that contain perchlorate at a level of above 4 parts per billion. This action is being taken due to the uncertainty surrounding the setting of a mandatory contaminant level set for January 1, 2004 as required by the State Legislature.

More detailed information is available at the following websites, which are updated as new information becomes available:

www.morgan-hill.ca.gov

www.valleywater.org

<http://www.dhs.ca.gov/ps/ddwem/index.htm>

Click on "Chemical Contaminants in Drinking Water" - then on "Perchlorate."

You may also contact the Santa Clara Valley Water District's Perchlorate Hotline at 1-888-439-6624. This is a toll-free number. ♫

A Word About Chemicals and Organisms

HERE'S A BRIEF description of chemicals and organisms, and how the City of Morgan Hill monitors, tests, and treats for them:

Methyl Tertiary-Butyl Ether (MTBE): Added to gasoline either seasonally or year round in many parts of the United States to increase octane levels and reduce carbon monoxide and ozone levels in the air. In California, it has been added to gasoline since January 1996. The City of Morgan Hill has tested quarterly for MTBE in its 13 wells. No MTBE has been detected.

Lead and Copper Testing: In 1991, the EPA adopted the Lead and Copper Rule which requires all cities, including Morgan Hill, to perform lead and copper testing. The City's public water system does not have detectable levels of lead and copper; however, these metals may leach into the water from home plumbing.

In June of 1997 the City completed Lead and Copper testing from inside homes under the guidance of the Department of Health Services. Results showed that the Copper levels were below the Federal Action Level of 1300 parts per billion (ppb), and the Lead levels were below the Federal Action Level of 15 parts per billion (ppb).

The City is on a three year cycle for testing of Lead and Copper determined by the primary testing performed at the first inception of the Lead and Copper Rule. The City completed its tri-annual sampling in June of 2000.

Nitrates: Nitrates in drinking water at levels above 45 mg/l is a health risk for infants below the age of six months. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness. Symptoms include shortness of breath and blueness of the skin.

High nitrate levels may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. Nitrate levels may rise quickly in short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider, or choose to use bottled water for mixing formula and juice for your baby. If you are pregnant, you should drink bottled water.

The City's water supply is below the MCL for nitrates. The City performs an average of 15 separate tests per week for nitrates alone to ensure a safe water supply.

Water Sources:

MORGAN HILL is located in South Santa Clara County, situated between the Coyote and Llagas underground aquifers. These aquifers are the source of Morgan Hill's water supply.

The City currently operates 13 deep water wells located throughout the City. In 2002, these 13 wells supplied 2,542 million gallons of water for 10,841 homes and businesses in Morgan Hill. After the water comes out of these wells, it is treated with chlorine disinfectant to protect against microbial contaminants.

An assessment of the drinking water sources for the City of Morgan Hill was completed in September of 2002. The ground-water source is considered to be most vulnerable to the following activities associated with contaminants detected in ground water: animal feeding operations, and low density septic systems (occurrence of nitrate in groundwater)

In addition, the source is considered most vulnerable to these activities, for which no associated contaminant has been detected: irrigated crops, grazing and animal operations and agricultural/irrigation wells, gas stations, dry cleaners, animal feeding operations, repair shops, sewer collections systems and pesticide/fertilizer/petroleum storage.

A copy of the complete assessment is available at the Department of Health Services, Drinking Water Field Operations Branch at 2151 Berkeley Way, room 458, Berkeley, California and at the City of Morgan Hill Public Works Department at 100 Edes Ct. ♻️

Water Quality Data:

THE TABLE (shown right) lists all the drinking water contaminants detected during the 2002 calendar year.

To ensure that tap water is safe to drink, the California Department of Health Services (DOHS) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Morgan Hill's water is treated in accordance with the Department's regulations.

The Department's Food and Drug Branch regulations establish limits for contaminants in bottled water which must provide the same protection for the public. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk.

Unless otherwise noted, the data presented in this table is from testing done over the period January 1 - December 31, 2002. The State allows the City to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Thus, some of the data - though representative of the water quality - is more than a year old. ♻️

PARAMETER	DATE TESTED	UNITS	MCL	PHG (MCLG)	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINANT	EXCEEDED MCL?
					LOW	HIGH	AVG.		
PRIMARY STANDARDS - MANDATATED HEALTH RELATED STANDARDS									
CLARITY									
TURBIDITY	2002	NTU	5	N/A	0.05	0.60	0.16	SOIL RUNOFF	NO
ORGANIC CHEMICALS									
TOTAL TRIHALOMETHANES	QUARTERLY 2002	PPB	100	N/A	ND	1.9	.74	BY-PRODUCT OF DRINKING WATER CHLORINATION	NO
INORGANIC CHEMICALS									
ASBESTOS	1995	MFL	7	(7)	ND	0.7	0.04	INTERNAL CORROSION OF ASBESTOS CEMENT WATER MAINS; EROSION OF NATURAL DEPOSITS	NO
BARIUM	2001	PPM	1	(2)	ND	0.15	0.05	DISCHARGES OF OIL DRILLING WASTES AND FROM METAL REFINERIES; EROSION OF NATURAL DEPOSITS	NO
CHROMIUM	2001	PPB	50	(100)	4	24	9.5	DISCHARGE FROM STEEL AND PULP MILLS AND CHROME PLATING; EROSION OF NATURAL DEPOSITS	NO
CADMIUM	2001	PPB	5	0.07	ND	1	0.07	INTERNAL CORROSION OF GALVANIZED PIPES; EROSION OF NATURAL DEPOSITS; DISCHARGE FROM ELECTROPLATING AND INDUSTRIAL CHEMICAL FACTORIES, AND FROM METAL REFINERIES; RUNOFF FROM WASTE BATTERIES AND PAINTS	NO
NITRATE (AS NO3)	2002	MG/L	45	45	9	39	22	RUNOFF AND LEACHING FROM FERTILIZER USE; LEACHING FROM SEPTIC TANKS AND SEWAGE; EROSION OF NATURAL DEPOSITS	NO
RADIOACTIVE CONTAMINANTS									
GROSS ALPHA ACTIVITY	QUARTERLY 2001	PCi/L	15	N/A	ND	2.75	.34	EROSION OF NATURAL DEPOSITS	NO
SECONDARY STANDARDS - AESTHETIC STANDARDS									
CHLORIDE	2002	MG/L	500	N/A	32	79	54	RUNOFF/LEACHING FROM NATURAL DEPOSITS; SEAWATER INFLUENCE	NO
SULFATE	2002	MG/L	500	N/A	22	49	40	RUNOFF/LEACHING FROM NATURAL DEPOSITS; INDUSTRIAL WASTES	NO
TOTAL DISSOLVED SOLIDS	2002	MG/L	1000	N/A	332	380	345	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NO
IRON	2002	UG/L	300	N/A	ND	215 ⁽¹⁾	40	LEACHING FROM NATURAL DEPOSITS; INDUSTRIAL WASTES	NO
SPECIFIC CONDUCTANCE (E.C.)	2001	UMHO/CM	1,600	N/A	500	680	592	SUBSTANCES THAT FORM IONS WHEN IN WATER; SEA WATER INFLUENCES	NO
COLOR	2002	UNITS	15	N/A	ND	5	.77	NATURALLY - OCCURRING ORGANIC MATERIALS	NO
ODOR--THRESHOLD	2002	TON	3	N/A	1	1	1	NATURALLY - OCCURRING ORGANIC MATERIALS	NO
SODIUM	2002	PPM	NS	N/A	18	39	25	"SODIUM" REFERS TO THE SALT PRESENT IN THE WATER AND IS GENERALLY NATURALLY OCCURRING.	NS
LIST OF ADDITIONAL CONSTITUENTS ANALYZED									
PH	2002	UNIT	NS		7.4	7.9	7.6	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS
HARDNESS	2002	PPM	NS		223	302	253	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS
HARDNESS	2002	GRAINS/GAL	NS		13	18	15	RUNOFF/LEACHING FROM NATURAL DEPOSITS	NS

PARAMETER	DATE TESTED	UNITS	ACTION LEVEL	PHG (MCLG)	NUMBER OF SITES SAMPLED	HOUSEHOLD RESULTS 90TH PERCENTILE	TYPICAL SOURCE OF CONTAMINANT	ACTION LEVEL EXCEEDED?
LEAD AND COPPER								
LEAD	6/00	PPB	15	2	30	5PPB	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS	NO
COPPER	6/00	PPM	1.3	.17	30	.61PPM	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS	NO

PARAMETER	DATE TESTED	UNITS	ACTION LEVEL	PHG (MCLG)	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINATION	ACTION LEVEL EXCEEDED?
					LOW	HIGH	AVG.		
UNREGULATED CHEMICAL									
RADON QUARTERLY	2000	PCi/L	NS	NS	459	828	597	MANUFACTURING USE OF LUBRICATING OILS, FABRICS, DYES, RUBBER, PAINTS, FIREWORKS, AND CERTAIN FERTILIZERS	NS
PERCHLORATE	2002	PPB	4	NS	ND	5.5 ⁽²⁾	ND		NO
CHROMIUM VI	2002	PPB	NS	NS	ND	4.0	1.8		NS

Contaminants that may be present in source water before we treat it:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agricultural and residential uses.

Radioactive contaminants, which are naturally occurring.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban runoff, and septic systems.

TERMS & ABBREVIATIONS USED IN THE DATA TABLES

Public Health Goal (PHG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U. S. Environmental Protection Agency

Maximum Contaminant Level (MCL):

The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to PHG's or (MCLG's) as is economically and technologically feasible. Secondary MCL's are set to protect the odor, taste, and appearance of drinking water.

Regulatory Action Level (AL)

The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow

n/a:

not applicable

ns:

no standard

nd:

not detectable at testing limit

ppb:

parts per billion or micrograms per liter

ug/L:

micrograms per liter

ppm:

parts per million or milligrams per liter

mg/L:

milligrams per liter

pCi/l:

picocuries per liter (a measure of radiation)

MFL:

Million Fibers per Liter, with a fiber length greater than 10 micrometers

grains per gallon:

the measure of the concentration of a solution

ton:

a measure of the odor associated with water

umho/cm:

the measure of the dissolved inorganic salt content

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less than

⁽¹⁾San Pedro Well: Initial sample taken after well development was 310 ppb, which was above the MCL however, a confirming sample taken was 120 ppb for a sample average of 215 ppb, which is below the MCL.

⁽²⁾*Tennant Well sample analysis received on March 18, 2002 was 7 ppb. Following DOHS guidelines a confirming sample was taken and the result received on April 17, 2002 was 4 ppb. The average of the two results was 5.5 ppb which is above the Action Level of 4 ppb set in January 2002. The City immediately shutdown the well and drilled a replacement well for the loss of Tennant Well.

Unregulated Contaminants

The City proactively monitors for unregulated contaminants. This helps the EPA and the California Department of Health Services determine where certain contaminants occur, and whether the contaminants need to be regulated.

Radon: The City tested its source waters for radon on a quarterly basis in 2002. Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundations. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities.

Compared to radon entering the home through the soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause an increased risk of stomach cancer.

If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program, or call EPA's Radon Hotline. 1-800-SOS-RADON). 💧

Save Money Water Conservation

Free Water-Wise Kits:
Shower Heads, and Faucet
Aerators Available

These Water-Wise Kits are a package of information tips and resources from the City of Morgan Hill that can help you save water, both indoors and out. The shower heads and faucet aerators are designed to offer excellent performance while reducing the use of water. To learn more about these free resources, call the City's Environmental Programs Division at 779-7247.

Water Sampling and Testing:

THE ANNUAL water sampling required by the State Department of Health Services consists of Bacteria (520 samples), Nitrate (780 samples), Turbidity (52 samples), and Trihalomethenes (32 samples) for a total of 1,384 samples from the 40 separate sample stations and source facilities located throughout the City's water distribution system.

Monthly bacteria samples are also taken at the 13 water wells from which the community gets its water supply. Additionally, a General Mineral/Physical and Inorganics sample is taken from all water wells once each year, even though the Department of Health Services requires this type of sampling only once every three years. 💧

Water System Improvements

THE CITY'S water system consists of 13 production wells, 110 miles of water main, 9 pumping stations, and 10 reservoirs. This complex, interrelated system requires 24-hour monitoring and an extensive program of ongoing maintenance. Additionally, a 5-year program of capital improvements must be constantly updated to plan and fund new capacity and the replacement of outdated infrastructure. Recent improvements to the City's water system include:

- 💧 Completed design for Boy's Ranch and Edmundson Reservoir and began construction of Edmundson Reservoir.
- 💧 Completed drilling San Pedro emergency well.
- 💧 Adopted Water Master Plan.
- 💧 Completed design of new SCADA system (this computerized monitoring of water reservoir levels and pumping equipment operations throughout entire water supply system improves efficiency and reporting).
- 💧 Started preliminary design for rehab of Jackson Oaks.